

tween this species and *Felis bengalensis* Kerr, namely 'shortening of the upper jaw, accompanied by the downward curve of the end of the nasals and the nearly vertical plane of the anterior nares and of the maxillo-premaxillary suture; also the maxillae are greatly expanded above and the nasals strongly constricted in their posterior portion;...and as an accompaniment of the shortening of the muzzle the area behind the upper canine is also short and has lost the normal small premolar in front.' All the above mentioned differences hold good for the present specimen, but from a cursory examination of the 19 skulls of *F. bengalensis* present in the Zoological Survey of India collection it is found that in three skulls the maxillo-premaxillary suture is nearly vertical and in one specimen anterior small premolar is absent.

ZOOLOGICAL SURVEY OF INDIA,  
8, LINDSAY STREET,  
CALCUTTA 16,  
January 16, 1978.

The present specimen is an young adult and appears to be slightly smaller than those from South India and Sri Lanka.

Jerdon stated that 'this pretty little cat frequents grass in the dry beds of tanks, brushwood, and occasionally drains in the open country and near villages, and is said not to be a denizen of the jungles'. The present specimen was first noticed at about 23.00 hours in an open scrub forest, with low thorny bushes and stunted trees about one and half kilometres away from the nearest human habitation. When chased, it ran for a certain distance and then climbed very quickly up a tree (about 4 metres high) from where it was shot. Its stomach contained no food. No additional specimen could be seen, though attempts were made to find more during the next five days.

S. CHAKRABORTY

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### 7. CENSUS OF BLACKBUCKS IN THE VELAVADAR NATIONAL PARK OF GUJARAT STATE

#### INTRODUCTION

Blackbucks are now mostly found in scattered groups in the coastal plains of the Sau-

ashtra region of Gujarat State. However, except in the coastal area known as 'Bhal', the number of animals found in different pockets is very small. In the Bhal area of

Bhavnagar and Dhandhuka Talukas, large herds of blackbucks still occur. To protect these herds, a Sanctuary for blackbucks in the 890 ha. Government Vidi area at Velavadar was established in the year 1969 and in the year 1976, the whole of the Velavadar Vidi area admeasuring 1783.88 ha. was constituted into a National Park for blackbuck. This National Park is situated about 70 km. north of Bhavnagar off the highway to Ahmedabad. For want of camping facility, the Park has not been thrown open for general visitors so far. However, a forest lodge is now under construction and by next year, the general public will be able to visit this unique area for viewing blackbuck.

When the Velavadar Sanctuary was first constituted, it was roughly estimated to contain about 400 blackbuck. With adequate protection, these continued to multiply at a rapid rate. However, in the first week of June 1976, there was a severe cyclonic storm accompanied by heavy rain which continued for more than five days in the Bhal area and as many as 923 blackbuck died due to prolonged exposure and starvation. It therefore became necessary to know the exact number of blackbucks left in the National Park. It was decided to carry out a systematic and detailed census of blackbuck in the National Park area (including the surrounding villages where some of the animals are known to stray) during the summer of 1977. The 5th of May 1977, was finally fixed as the date for the census. The Wildlife Conservation Society of Bhavnagar was associated with the census and nine members of the Society volunteered to work as enumerators.

#### *Method of Census:*

The area of the Park was divided into convenient blocks and counting animals in each

block was done by the enumerators moving on foot.

Black-bucks are known to commonly stray out of the National Park area into the surrounding villages. It was therefore decided to include 24 villages surrounding the National Park in the census operations.

The area of the National Park (including its buffer zone) was divided into 30 enumeration blocks. These blocks were demarcated on the ground by fixing bamboo poles with white flags. Outside the National Park Zone, each village was constituted as one block for the purpose of enumeration. As the village boundaries are known to the local persons (enumerators), it was not considered necessary to demarcate the boundaries of such blocks.

The whole area was divided into the following zones:

- Zone No. 1* National Park Zone (including Buffer Zone) with 30 blocks
- Zone No. 2* Mewasa Zone consisting of 11 villages, i.e. with 11 blocks
- Zone No. 3* Bavaliyali Zone containing 13 villages, i.e. with 13 blocks

#### *The Census:*

There was a heavy thunderstorm on 4th evening which blew off the roof of the watchtower in the National Park. The ground had also become wet, making it difficult for vehicles to move about freely. However, as the animals were to be counted by moving on foot, there was not likely to be much practical difficulty in carrying out the census.

The census operation was conducted in the National Park Zone between 8.00 to 8.30 and recounting of the animals was carried out from 8.30 to 9.00 hours. After the census operation was over, it was decided to recheck

# MISCELLANEOUS NOTES

the counting of animals in the whole National Park Zone by sending out three independent checking parties moving in vehicles and counting the animals with the aid of binoculars. For this purpose, the National Park Zone was divided into three sub-zones by prominent features and one checking party was assigned to each sub-zone. The census result is reproduced below:

	No. of Blackbucks			
	Male	Female	Young ones	Total
National Park (including buffer zone)	338	1052	164	1554
Surrounding villages	31	72	19	122
	369	1124	183	1676

As suggested by Shri M. K. Shivbhadrasinhji, of the Wildlife Conservation Society a census of blackbucks was also carried out separately in Dhankaniya Vidi of Botad Taluka situated about 50 kms. from Velavadar where also blackbucks were reported to occur. The result of this census is as under:

Male	Female	Young ones	Total
39	104	98	241

However, as this area is a separate entity, these figures are not included in the official census figures for Velavadar National Park.

In addition to the above, small herds of blackbucks are unofficially reported at the following places:

Bhavnagar District	:	Near Victor Port	..	40
Amreli District	:	Near Rajula	..	25 to 30
		Near Damnagar	..	15 to 20
		Near Lathi	..	15
Junagadh District	:	Near Jhanjmer	..	20 to 25
		Near Kotda	..	50
Surendranagar District	:	Near Limdi	..	150
Vadodara District	:	Sunderpura	about	150
Total about				.. 500

Some blackbucks are also known to occur in and around the Rann of Kutch. Thus it is estimated that the present total population of blackbucks in the whole of Gujarat State may be roughly around 2500.

## Discussion of the data and Conclusions:

The following conclusions can be drawn from the result of the census:

- (1) There is roughly 1 blackbuck to every hectare of the National Park area.
- (2) More than 92% of the animals are found in the National Park area while less than 8% of animals are found in the surrounding villages in the morning hours. Generally small herds of blackbuck and solitary males go outside the National Park.
- (3) The sex ratio of male to female is roughly 1:3. Normally it should be 1:6. There is thus a preponderance of males in the area. This clearly indicates the urgent need for culling or translocation of the surplus animals.
- (4) The young ones make up more than 10% of the population which can be considered to be a very satisfactory breeding rate.
- (5) Conducting census by moving about in vehicles and counting the animals with the aid of binoculars has given about 90% accuracy. This method is cheap and can be adopted for preparing rough estimates of animals every year. The elaborate method of dividing the area into enumera-



tion block and counting of the animals in each block by enumerators moving on foot may be adopted only at intervals of three to five years.

#### ACKNOWLEDGEMENTS

I would like to express my sincere thanks

to M. R. Shivbhadrasinhji and his band of wild life enthusiasts for their active participation in the blackbuck census. The local staff also deserve all praise for the systematic and disciplined manner in which they performed the tasks assigned to them.

ADDL. CHIEF CONSERVATOR OF FORESTS,  
WILD LIFE,  
GUJARAT STATE,  
June 13, 1977.

M. A. RASHID

### 8. LOST PELICANRY

The Spottedbilled or Grey pelican (*Pelicanus philippensis* Gmelin) was first recorded in India well over a century ago (Blyth 1844—quoted by Lamba 1963) and is known to frequent well watered tracts throughout the country. However, for a long time very little was known regarding its breeding in India. Earlier ornithologists believed that the bulk of the Grey pelicans found in India went to Burma to breed (Hume 1890). In later years only two small breeding colonies were reported. One at Buchepalle, Cuddapah District, Andhra Pradesh and another at Kundakolam, Tinnevelly District, Tamil Nadu (then Madras Presidency) (Campbell 1902, Rhenius 1907). Thus the question “where do pelicans breed in India?” had remained to a greater extent unanswered until Neelakantan (1949) discovered, perhaps, the largest pelicanry of India near village Aredu, West Godavari District, Andhra Pradesh. He stated “According to the villagers this sanctuary has been in existence from time out of mind”. He also roughly counted more than 800 adults and 1200 chicks of Grey pelicans, in March 1949. Lamba while studying the nidification of this species at the same site, in 1956-57, discovered some more pelicanries in the close vicini-

ties and called them all the “Kolleru Pelicanries”. During that period, I was a member of the field team and had seen hundreds of Grey pelicans nesting on palmyra trees. Gee (1960) had counted not less than 3,000 pelicans in an area of two square miles at the same spot. Spillett (1968) made a very brief mention of these pelicanries in his report on the survey of wildlife in South and West India. Since then no information seems to have been recorded on these pelicanries.

I had an opportunity to visit this area again after 18 years between 4th December 1974 and 4th February 1975. To my dismay, not a single pelican was found nesting or otherwise.

Enquiries from the local people revealed that pelicans have stopped coming to this area for breeding for the last few years. One old man informed me that sometime in 1964, birds died in large numbers and since then, the pelicans have disappeared. Some other villagers and one educated farmer from Akividu confirmed the deaths, but said that they were mostly among paddy-birds and egrets. None of them were sure whether pelicans also died. Some of these people suggested that the deaths may have been due to endrin poisoning and